



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

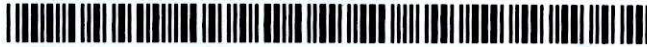
RB T102137-111
Job Sheet 201266



Part No: RB T102137-111

Job Qty: 1 pcs

Part Name: Lifting Tool



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 9/30/19

Job Tracking No:

Due Date: 11/4/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: RB T102137-111 REV.B IPP REV;A 18.05.14 NEW ISSUE DD VERF:JFS/IPP Rev. B 19.06.21 Drawing
Revision DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Small Fab - 1	1 pcs	11/4/19		0.00	0.50	Small Fab - 1		
							Small Fab - 2		
							Small Fab - 3		
							Small Fab - 4		
							Small Fab - 5		
							Small Fab - 6		
							Small Fab - 7		
							Small Fab - 8		
105	External Load - 2 - B4B	1 pcs	11/4/19		0.00	0.33	External Load - 1 - B4B		
							External Load - 2 - B4B		
							External Load - 3 - B4B		
110	QC 5	1 pcs	11/4/19		0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		

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DART Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S232681



Part: RB T102137-111

Job No: 201266

Serial No/Batch: S232681

Revision: B

Inspector:

Exp Date:

Instructions:

Date: 11/18/19

120 Small Fab - 2 - B4B	1 pcs	11/4/19	0.00 1.00	Small Fab - 1 - B4B	
				Small Fab - 2 - B4B	
				Small Fab - 3 - B4B	
				Small Fab - 4 - B4B	
				Small Fab - 5 - B4B	
				Small Fab - 6 - B4B	
				Small Fab - 7 - B4B	
				Small Fab - 8 - B4B	
130 Outsource - 13 - Zinc Plating	1 pcs	11/4/19		GRO002-VC	5
140 Packaging 2-1 - Receive - B4B	1 pcs	11/4/19	0.00 0.00	Packaging 2 - 1 - B4B	
				Packaging 2 - 2 - B4B	
				Packaging 2 - 3 - B4B	
				Packaging 2 - 5 - B4B	
				Packaging 2 - 4 - B4B	
				Packaging 2 - 6 - B4B	
				Packaging 2 - 7 - B4B	
				Packaging 2 - 8 - B4B	
				Packaging 2 - 9 - B4B	
				Packaging 2 - 10 - B4B	
				Packaging 2 - 11 - B4B	
				Packaging 2 - 12 - B4B	
				Packaging 2 - 13 - B4B	
				Packaging 2 - 14 - B4B	
				Packaging 2 - 15 - B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	
				Packaging 2 - 27 - B4B	
				Packaging 2 - 28 - B4B	
				Packaging 2 - 29 - B4B	
				Packaging 2 - 30 - B4B	
				Packaging 2 - 31 - B4B	
				Packaging 2 - 32 - B4B	
				Packaging 2 - 33 - B4B	
				Packaging 2 - 34 - B4B	
				Packaging 2 - 35 - B4B	
				Packaging 2 - 36 - B4B	
150 QC 6	1 pcs	11/4/19	0.00 0.00	QC 6 - 9	
				QC 6 - 68	
				QC 6 - 61	
				QC 6 - 40	
				QC 6 - 81	
160 Small Fab - 3 - B4B	1 pcs	11/4/19	0.00 0.33	Small Fab - 1 - B4B	
				Small Fab - 2 - B4B	
				Small Fab - 3 - B4B	
				Small Fab - 4 - B4B	
				Small Fab - 5 - B4B	
				Small Fab - 6 - B4B	
				Small Fab - 7 - B4B	
				Small Fab - 8 - B4B	
170 QC 5	1 pcs	11/4/19	0.00 0.00	QC 5 - 10	

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MLL

Part Op **100** - (Small Fab) Assemble as per drawing. ***Assembly of Lanyard and ball lock pin not required for load test***

Descriptions: **105** - 1-Load test to 24,000Lbs as per RB T102137-111 sheet 6. 2-Sign and date sheet 6.

110 - QC5- Inspect part completeness to step on W/O

120 - (Small Fab) 1-Disassemble 2-Using marktronic engrave load test date on 103 as per DWG. 3-Bag and tag

103,105,107,109 4-Using MARKTRONIC engraver engrave -103 as per note 7. 5-Bag and tag balance of parts and hardware and put aside for reassembly.

130 - Issue P/O to Groupe Altech: P/O 45214 -RB T102137-111-103 -RB T102137-111-105 -RB T102137-111-107 -RB T102137-111-109 -Issue P/O; _____ -Zinc plate, ASTM B633 TYPE 2 SC2 -Color; yellow -Material type;

4140 -Certificate of Conformity is required

140 - (Receive & Inspect for Damage & Mat'l Certs)

150 - (QC6- All purchased or subcontracted products) Return these parts to Small Fab; -RB T102137-111-103 -RB T102137-111-105 -RB T102137-111-107 -RB T102137-111-109

160 - (Small Fab) 1-Fabricate lanyard and reassemble as per drawing. See note 8,9,10 and 11.

170 - QC5- Inspect part completeness to step on W/O

180 - (Identify as per dwg & Stock Location: _____) The tool must be packaged with a desiccant bag into a tight fitting sealed plastic bag as per DWG.

190 - QC21- Final Inspection - Work Order Release

Job BOM

012974

Part / Item	Component Name	Quantity	Operation	Container
57 90630A165	Grade 8 Steel Nylon Insert Locknut 5/8"-18 X 3/4" Height	1 Ea (1 ea)	100-Small Fab - 1	214 309
198 AN10-47A	Bolt	1 Ea (1 ea)	100-Small Fab - 1	202050
200 NAS1149F1063P	Washer (AN960-1016)	2 Ea (2 ea)	100-Small Fab - 1	067037
24 NAS1333S6S10D	Quick Release Pin	1 Ea (1 ea)	100-Small Fab - 1	199345
RB T102137-111-103 Strap		1 pcs (1 ea)	100-Small Fab - 1	221762
150 RB T102137-111-105 Pin		1 pcs (1 ea)	100-Small Fab - 1	226185
150 RB T102137-111-107 Sleeve		1 pcs (1 ea)	100-Small Fab - 1	226278
150 RB T102137-111-113 Clevis		1 pcs (1 ea)	100-Small Fab - 1	196300
3896T31	Ferule 1/16 X 3/8" - Aluminum	2 Ea (2 ea)	160-Small Fab - 3 - B4B	5199293
64 90905A655	316 SS Split Ring 15/16" ID. X 1-1/16" OD. X 1/8" Thick	1 Ea (1 ea)	160-Small Fab - 3 - B4B	5206433
70 91772A826	18-8 SS Phillips Pan Head Screw #10-32 X 5/16" Long	1 Ea (1 ea)	160-Small Fab - 3 - B4B	5192659
58 97840A460	18-8 SS Tab For Wire Rope Lanyard 1.40" Long X 1/2" Width X 1 Ea (1 ea)	1 Ea (1 ea)	160-Small Fab - 3 - B4B	5199344
CL-2-C	Lanyard Wire	.9000 ft (.9 ea)	160-Small Fab - 3 - B4B	5192012

Job Allocations

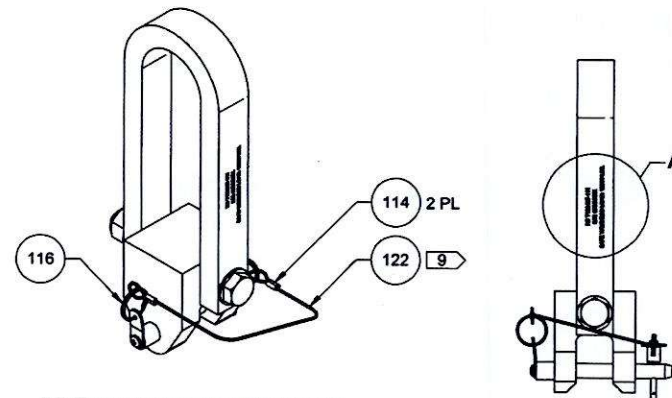
Operation	Component Part	Required	Inventory	Allocated
100-Small Fab - 1	90630A165	1	36	0
	AN10-47A	1	25	0
	NAS1149F1063P	2	127	0
	NAS1333S6S10D	1	10	0
	RB T102137-111-103	1	0	0
	RB T102137-111-105	1	0	0
	RB T102137-111-107	1	0	0
	RB T102137-111-113	1	1	0
160-Small Fab - 3 - B4B	3896T31	2	848	0
	90905A655	1	54	0
	91772A826	1	95	0
	97840A460	1	35	0
	CL-2-C	1	1,079	0

Part Specifications

Specifications could not be found.

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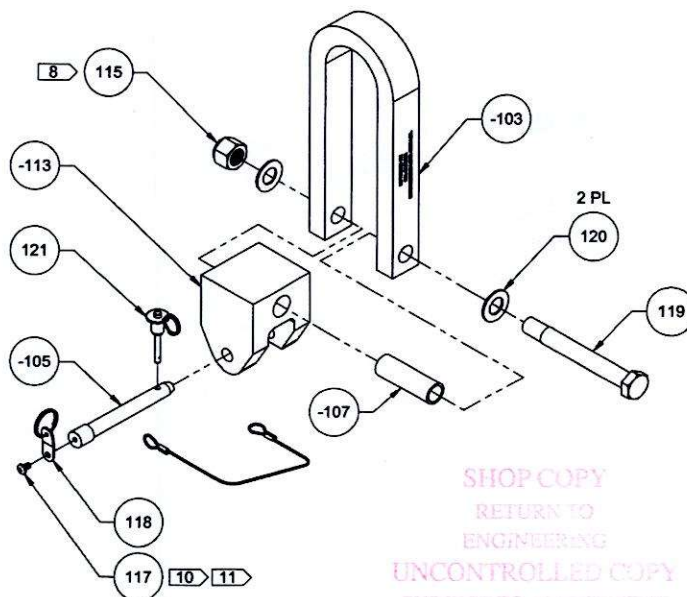
ITEM #	QTY	PART #	PART TITLE
-103	1	RB T102137-111-103	STRAP
-105	1	RB T102137-111-105	PIN
-107	1	RB T102137-111-107	SLEEVE
-113	1	RB T102137-111-113	CLEVIS
114	2	McMaster#3896T31 OR EQUIV.	ALUMINUM WIRE ROPE COMPRESSION SLEEVE 1/16" DIA. X 3/8" LG.
115	1	McMaster#90630A185 OR EQUIV.	GRADE 8 STEEL NYLON INSERT LOCKNUT 5/8"-18 X 3/4" HT.
116	1	McMaster#90905A655 OR EQUIV.	316 SS SPLIT RING 15/16" ID. X 1-1/16" OD. X 1/8" THK.
117	1	McMaster#91772A826 OR EQUIV.	18-8 SS PHILLIPS PAN HEAD SCREW #10-32 X 5/16" LG.
118	1	McMaster#97840A480 OR EQUIV.	18-8 SS TAB FOR WIRE ROPE LANYARD 1.40" LG. X 1/2" WIDTH. X 1/16" THK.
119	1	AN10-47A	BOLT
120	2	NAS1149F1063P	WASHER
121	1	NAS1333S6S10D	QUICK RELEASE PIN
122	1	CARR-LANE#CL-2-C	NYLON COATED STEEL LANYARD 1/16" DIA.



RB T102137-111 LIFTING TOOL

RB T102137-111
SN: 8XXXXXX
SAFE WORKING LOAD: 12000 LBS.

DETAIL A



NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = $\pm 0.1"$ / $\pm 1"$
X.XX = $\pm 0.01"$ / $\pm 0.5"$
X.XXX = $\pm 0.005"$ / $\pm 0.1"$
X.XXXX = $\pm 0.0005"$ / $\pm 0.05"$
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = $\pm 0.005"$
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: LASER ENGRAVE, AS SHOWN
- 7) ASSEMBLE AS SHOWN
- 8) TIGHTEN NUT UNTIL IT CONTACTS SURFACE, ENSURE 1-4 THREADS IN SAFETY
- 9) ASSEMBLED LANYARD LENGTH MUST BE 10" $\pm 1"$, LANYARD MUST MOVE FREELY WHEN INSTALLING/REMOVING ITEM 121
- 10) APPLY RED THREADLOCKER LOCTITE 263/262 ON THREADS OF ITEM 117 THEN ASSEMBLE WITH ITEM -105, AND REMOVE EXCESS
- 11) INSTALL ITEM 117 HAND TIGHT
- 12) THE TOOL ASSY MUST BE PACKAGED WITH A DESICCANT BAG INTO A TIGHT FITTING SEALED PLASTIC BAG

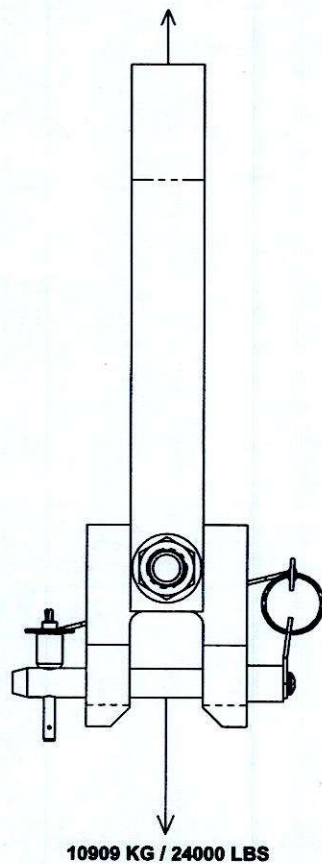
SEE PREVIOUS REVISION FOR MORE INFORMATION
UPDATED DRAWING TEMPLATE
ITEM -111 WAS NAS6610-64 IS ITEM 119 AN10-47A
ITEM -131 WAS MS20002-10 IS ITEM 120 NAS1149F1063P
ITEM -115 WAS NAS1291-10 IS ITEM 115 McMaster#90630A185 OR EQUIV.
ITEM -117 WAS MCMASTER-CARR #90272A238 IS ITEM 117 McMaster#91772A826 OR EQUIV.
REMOVED ITEMS -119, -125, AND -129
-103 MATERIAL WAS 4140/4142 IS 4140. FINISH WAS CAD PLATE YELLOW IS ZINC PLATE YELLOW. DIM WAS $\phi .6260-.6245$ IS $\phi .641$. DIM WAS (1.25) IS 1.25. REMOVED ENGRAVING NOTES AND 0.63 DIM.
-105 MATERIAL WAS 4140/4142 IS O1. FINISH WAS CAD PLATE YELLOW IS ZINC PLATE YELLOW. HEAT TREAT WAS RC 46-50 IS 48-52 RC. DIM WAS $\phi .194$ IS $\phi .196$. DIM WAS 10-24 UNC $\frac{1}{2}$ IS 10-32 UNF $\frac{1}{2}$ 0.31. REMOVED .63 DIM. ADDED 4.00 DIM. ADDED CYLINDRICITY GD&T TOLERANCE, ADDED R0.008 MAX DIM
-107 MATERIAL WAS 4140/4142 IS 4140. FINISH WAS CAD PLATE YELLOW IS ZINC PLATE YELLOW. HEAT TREAT WAS RC 32-37 IS 32-38 RC. DIM WAS $\phi .627+.000/-0.002$ IS $\phi .641$. DIM WAS 2.500+.000/-0.010 IS 2.493-2.488
-113 MATERIAL WAS 4140/4142 IS 4140. FINISH WAS CAD PLATE YELLOW IS ZINC PLATE YELLOW. DIM WAS 2.38 IS 2.493-2.488. DIM WAS $\phi .504-.501$ IS $\phi .510-0.506$. REMOVED .25, $\phi .086$ $\frac{1}{2}$ 0.75, 2.00, 1.19, .829, AND 1.38 DIMS. REMOVED ENGRAVING NOTE.

REV.	DESCRIPTION	ECN #	BY
DESIGN	KPT		
DRAWN	KPT		
CHECKED	MBB		
MFG. APPR.	JFC		
APPROVED	WJP		
DATE	2019-06-20		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
TOOL PART # RB T102137-111	REV B
TITLE LIFTING TOOL	SHEET 1 OF 6
SCALE NTS	

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WITHOUT NOTICE
WORK ORDER
NO. 201266 MJS
19-09-30



FIRST ARTICLE WEIGHT TEST

1. AFTER INSPECTION, PLACE LIFTING TOOL IN AN APPROPRIATE FIXTURE AND USE THE QUICK RELEASE PIN TO LOCK THE PIN INTO PLACE. ATTACH THE LIFTING TOOL TO AN APPROPRIATE TEST WEIGHT OF 10909 KG / 24000 LBS.
2. LIFT WEIGHT FOR AT LEAST 5 MINUTES, CONTINUALLY CHECKING FOR CRACKS, DEFLECTION, OR DISTORTION
3. REMOVE WEIGHT AND RE-INSPECT TOOL, CHECKING FOR STRESS CRACKS, BENDING, OR DISTORTIONS.

INSPECTOR: _____

TESTER: _____

S/N: _____

DATE: _____

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0-00

Michel Lalonde

5232681

2019-11-19

DESIGN	KPT	DART AEROSPACE LTD	
DRAWN	KPT	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MBB	TOOL PART #	REV B
MFG. APPR.	JFC	RB T102137-111	SHEET 6 OF 6
APPROVED	<i>VP</i>	TITLE	SCALE
DATE	2019-06-20	LIFTING TOOL	NTS
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐		
Date :	Sequence #:	QTY Affected :	MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By
				Lead hand / Supervisor
				QC / QA Coordinator
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread		
Other/Details:				



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **POHB045214**



Supplier: GRO002-VC
Group Altech
2455 Halpern
St Laurent
QC
H4S 1N9 Canada
Phone: 514-335-3666
Fax: 514-335-3868

Attention: Grenon, Sylvie

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB045214

PO Date: 11/26/19

Due Date: 12/4/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Guerin, Kimberley
Phone: 613-632-5200 Ext: 298
kguerin@dartaero.com

Via: Ground

Pymt Terms: Net 60

Freight Terms:

Special Comments:

E-MAILED
2019-11-27

Items												
Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	201266	RB T102137-111	RB T102137-111 Rev B	Lifting Tool -Issue P/O to Groupe Altech -RB T102137-111-103 -RB T102137-111-105 -RB T102137-111-107 -RB T102137-111-109 -Zinc plate, ASTM B633 TYPE 2 SC2 -Color; yellow -Material type; 4140 -Certificate of Conformity is required	Firmed - XV	-	12/4/19	1 pcs	0 pcs	1 pcs	\$90.00/pcs	\$90.00
Line Item Note 1 kit = 4 pieces Grand Total: \$90.00												

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Kimberley Guerin



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB045214



Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications

A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 11/27/19 2:28 PM Dart.Guerin.Kimberley



Certificat de Conformité / Certificate of Compliance

(024464-1)

2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9
 Tel: 514-335-3666 Fax: 514-335-3868
 www.groupaltech.com

Bon de Livraison / Packing Slip

024464 - 1

Livré à / Ship to

DART AEROSPACE LTD

1270 ABERDEEN STREET

HAWKESBURY, ON, K6A1K7

CANADA

Tel.: 613-632-5200 Fax.:

Client / Customer:

DART AEROSPACE LTD

1270 ABERDEEN STREET

HAWKESBURY, ON, K6A1K7

CANADA

BUYER:

Date expédition Ship date		Créé Par Generated By	Transport / No de Compte Courier / Acc. No.		Bon de commande Client Customer Purchase Order No.			
28-Nov-2019		Jigar Patel			POHB045214			
#Ligne Line#	No. de Série / # Pièce Part Number /Line Item Details Job # / Ref #	Description pièce(s)	CATG. U/M	Comm. /Ordered	Exp/ Shipped	Qté NC/ NC Qty	Qté Scrap/	À venir/ Back Order
1	RB T102137-111 Rev.B	RB T102137-111 ZINC-YELLOW [ZINC YELLOW] OLD YELLOW CHROMATE, 96 hours AS PER ASTM B633 TYPE - 2, SC - 2 0.0003 "	ZINC CH	1	1	0	0	0 DAS 40 9-89

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RECEIVED
NOV 29 2019
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Notes Additionnelles / Additional Notes

1 Box

Epaisseur réelle
Actual Thickness
Inspecteur Qualité
Quality Inspector
Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
 Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
 Our financial and legal responsibility will not be higher than the amount of invoice.